BATTERY BOX
WINFREY BOX RESUBMISSION
ENERGY STORAGE SYSTEM

PLANNING STATEMENT

AMP CLEAN ENERGY

JULY 2025

Contents

1.0 Introduction

1.1 Overview

This application seeks permission for a 200kW (800kWhr) Energy Storage System (ESS) (known as a 'Battery Box') ("the proposed development") at Sir Halley Stewart Playing Field, Winfrey Avenue, Spalding, PE11 1DA.

AMP Clean Energy is developing Battery Boxes across the UK to provide a low carbon, flexible and de-centralised store of electricity that benefits local communities, businesses, and homes.

Each Battery Box has a small footprint of ~24sqm, equivalent to roughly 2 car parking spaces.

1.2 Who is AMP Clean Energy?

AMP Clean Energy develops, funds, builds, owns and operates renewable and low carbon energy facilities and flexible power assets across the UK. We have over 225 assets operational and provide service and maintenance to over 1,000 customer sites and have 175+ staff nationwide.

1.3 What is a Battery Box?

A Battery Box is an ESS that imports electricity from the local electricity network when demand for electricity is low or when there are high levels of renewable energy available. It then exports that electricity back to the grid when required during periods of high demand. This provides a solution to the growing need for network flexibility and helps address grid reliability issues prompted by an increase of intermittent (wind and solar) generation of the electricity system.

Each Battery Box connects into the low voltage (LV) electricity network, this is the lowest and most local point in the distributed system, where there is an increasing demand for electricity with the electrification of transport and heating systems. Stored electricity from the Battery Box will be exported and consumed locally.

For the avoidance of any doubt, each Battery Box connects directly to the local electricity network, from which it can import or export electricity. Battery Boxes do not directly connect to existing wind or solar farms.

AMP Clean Energy is developing up to 1,250+ Battery Boxes in the UK over the next 3 years. For reference we have included a list of some of the recent Battery Box planning consents in Appendix 01. We have now received planning consent for 150+ identical schemes across the country.

Battery Box Limited holds a Generation Licence (since February 2024) under s.6(1)(a) of the Electricity Act 1989 and as such is a Statutory Undertaker.

1.4 Why do we need Battery Boxes?

The UK's electricity system was traditionally dominated by a small number of large power stations fuelled by fossil fuel (namely coal and natural gas). However, the system is now becoming increasingly supplied by intermittent sources of renewable energy such as wind and solar power.

Renewable power generation does not always match when the demand for electricity is highest. To overcome this, we need a more flexible energy system that allows us to shift renewable energy to the periods of the day when the demand for power is at its greatest. And as the UK builds more and more renewable projects, increasingly there are times when the amount of renewable electricity on the system is greater than the demand for it.

ESS's allow this 'excess' renewable electricity to be stored and used later when low carbon sources are unable to generate enough electricity (i.e., when it isn't windy and sunny). By doing so ESS's can prevent the need to turn on fossil fuel power stations and allow the UK to maximise the use of renewable power and to facilitate the UK's transition to net-zero.

In addition, ESS's can provide services to both National Grid (NG) (who operate the transmission network) and Distribution Network Operators (DNOs) who operate the local electricity networks. For example, they can help maintain services during network outages, support the network frequency and 'black start' which helps energise a network following a power cut. ESS also can replace the need for wider network upgrades. This reduces the cost for all bill payers and the inconvenience of road works and building works associated with replacing electricity cables and substations.

Every day we walk past the infrastructure on which we rely for our modern lives – often without noticing it. Substations, overhead power lines, telephone kiosks, 4G masts, natural gas kiosks and water pumping stations. Battery Boxes are part of a new era on infrastructure that we will need to support our changing lives and shift to net zero.

1.5 The Benefits of Battery Box

Urban, suburban, and industrial areas consume large amounts of energy, however, are not well suited for large scale ESSs (typically requiring many acres), solar farms (typically requiring 25 acres or more) or large wind turbines. Battery Boxes by contrast have a small footprint of ~24sq meters and connect into local Low Voltage networks making them uniquely suited to these areas.

In doing so they can provide the following benefits:

1.5.1 Reduce Carbon Emissions

By charging the Battery Box during periods of high renewable generation you charge up with low carbon energy. When demand is high and renewable power is not otherwise available, rather than turn on a fossil fuel power plant, ESSs can export the stored energy. This reduces the amount of carbon used on our energy system.

Whilst the amount of carbon saved each year will vary with changing weather and demand patterns, AMP Clean Energy expect each Battery Box will save 160 tonnes of carbon each year and 4,800 tonnes of carbon over the project Lifecyle. This saving includes the carbon impact of constructing, shipping, installing, operating, decommissioning the site and recycling the equipment.

According to Modo Energy in 2022 battery energy storage saved Great Britain's power sector 615,000 tons of CO2 emissions[1].

[1] https://modoenergy.com/research/8973

1.5.2 Improve Energy Security

ESS can displace the need for fossil fuels and in doing so reduce the need to import natural gas from other parts of the world, meaning the UK is less reliant on foreign energy sources. In 2023 Great Britain imported gas from countries including Peru, Angola, Trinidad and Tobago and Egypt[2].

1.5.3 Reinforce Local Electricity Networks

An average home uses around 1kWh in any given hour. A battery box stores 800kWh and has the potential to power 200 homes for four hours where there is a disruption to the supply to an area.

Also, as people electrify the heating in their homes and switch to Electric Vehicles the demand on local networks has never been greater. ESS's can provide additional capacity to those local networks when demand is high.

If we do not provide flexible solutions to the growing electricity demand on local networks, the network operators will have to upgrade and reinforce networks. Battery Boxes can delay or even negate this reinforcement. Without Battery Boxes we will see disruption as roads are dug up to replace cables and increasing bills as the costs of new substations are added to bills.

[2] https://assets.publishing.service.gov.uk/media/66a7aeb0fc8e12ac3edb0646/DUKES_2024_Chapter_4.pdf

2.0 Site Information and Background

2.1 Location and Planning History

The proposed development is located at Sir Halley Stewart Playing Field, Winfrey Avenue, PE11 1DA. The grid reference of the site is TF 24747 23022 and the site location is shown on the accompanying location plan drawing.

The site is a vacant grass area at the edge of the Sir Halley Stewart Playing Field.

The only previous planning application on site was the identical Battery box application (ref: H16-0596-24) for the area 50m to the North-West of the proposed site here. This application is a replacement for that application; AMP will **not** be building both. The freeholder, South Holland District Council made AMP aware of another plan for the previously consented area and requested we move the proposal to this new area.

2.2 Development Drawings

The planning application is accompanied by the following drawings:

- Site Location Plan
- Site Layout Plan
- Battery Compound – Plans and Elevations
- Fence Elevations
- Indicative 3D rendering of equipment

2.3 Site Selection

Suitable land for energy developments is not easy to find. A suitable site must be within 50m of an existing substation or a large 3 phase low voltage cable to allow for a viable electrical connection.

Sites must also have available space and a landowner who is prepared to host a battery box. However, having a small footprint makes battery boxes ideal for urban and built-up areas in which other renewable technologies are not suited.

This site has been carefully selected for the following reasons:

- Proximity to the local grid network.
- Unused grassland available.
- Suitable, flat land.
- Close to local electricity demand.

2.4 Development Description

The proposed development will consist of:

- Installation of a concrete plinth foundation;
- Installation of the battery cabinets and associated equipment;
- The construction of a fence surrounding the Battery Box;

Full site layout and equipment drawings accompany the application.

2.5 Construction

The construction of the site would take approximately 4 weeks. The electrical equipment is manufactured off site and is lifted into position on the concrete plinth before the electrical connection is complete.

2.6 Operation

Battery Boxes provide additional power and flexibility to the local electricity networks when it is needed most; typically, during periods of high demand (typically know as 'peak periods'). The ESS imports electricity when there is a surplus, for example a sunny and windy day during summer when electricity produced by wind turbines and solar panels exceeds real-time demand. Stored energy is then exported back to the local networks at peak periods (typically evenings between 16:00 and 20:00, Monday to Friday).

3.0 Planning Policy Review and Context

The below highlights the governments support for flexible energy developments and specifically energy storage.

3.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) (December 2024) sets outs the Governments economic, environmental and social planning policies for England.

It clearly states that there should be a **presumption in favour for sustainable development**, that is a development that meets the economic, social and environmental objectives including to moving to a low carbon economy.

The proposed development meets these criteria as it helps build a strong economy in the location that it is built, through the provision of infrastructure that allows communities to move to a low carbon economy.

Section 14; Meeting the challenge of Climate Change, flooding and coast change specifically addresses meeting the challenge of climate change.

Paragraph 161 states; "*the planning system should support the transition to net zero by 2050"* and it *"should help; to shape places in ways that contribute to radical reductions in greenhouse gas emissions…and support renewable and low carbon energy and associated infrastructure*".

Going further paragraph 168 states:

"*When determining planning applications for **all forms of renewable and low carbon energy developments** and their associated infrastructure, local planning authorities should:*

> *a) not require applicants to demonstrate the overall need for renewable or low carbon energy, and **give significant weight to the benefits associated with renewable and low carbon energy generation and the proposal's contribution to a net zero future.***
>
> *b) recognise that **small-scale** and community-led projects **provide a valuable contribution to cutting greenhouse gas emissions**. "*

3.2 Local Planning Policy

South Holland has acknowledged the threat of Climate Change to its community and committed South and East Lincolnshire to become net zero by 2050, publishing their Climate Change Strategy in 2022. The report sets out the council's initial action plan in how they are actively trying to reduce carbon emissions, highlighting the importance of supporting renewable energy and technology innovation in the energy sector:

"Engagement with the Distribution Network Operators will be essential as will the ability to accurately predict potential expansion and take up of particular technologies to ensure the energy infrastructure is able to meet demand." (page 15)

The proposed development will help the council work towards this aim. In addition, AMP Clean Energy expects each Battery Box to save 160 tonnes of carbon each year, and 4,800 tonnes of carbon over the project lifecycle.

3.3 National Policy Statement for Energy (November 2023)

The overarching National Policy Statement for Energy (EN-1)[3] sets out national policy for energy infrastructure in the UK. Whilst its focus is on larger national level schemes, it states that "*to produce the energy required for the UK and ensure it can be transported to where is its needed, a significant amount of infrastructure is needed at both Local and national scale*" (para 2.1.3).

Further that "*meeting these* [net zero] *objectives necessitate a significant amount of new infrastructure, both large national significant developments and small-scale developments determined at local level*".

It goes on say *"Storage has a key role to play in achieving net zero and providing flexibility to the energy system, so that high volumes of low carbon power, heat and transport can be integrated"* (para 3.3.25).

Furthermore that *"Storage is needed to reduce the costs of the electricity system and increase the reliability by storing surplus electricity in times of low demand to provide electricity when demand is higher"* (para 3.3.26).

Finally in para 3.3.27, that energy *"Storage can provide various services, locally and at the national level. These include maximising the usable output from intermittent low carbon generation (e.g. solar and wind), reducing the total amount of generation capacity needed on the system; providing a range of balancing services to the NETSO and Distribution Network Operators (DNOs) to help operate the system; and reducing constraints on the networks, helping to defer or avoid the need for costly network upgrades as demand increases".*

[3] https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1

4.0 Energy Policy Review and Context

The Climate Change Act 2008 sets the legislative framework for the UK's action on Climate Change, and in 2019 the Government committed to a 100% reduction in greenhouse gas emissions but 2050. This is referred to as the net zero target and is legally binding.

The Net Zero Strategy: Build Back Greener published in 2021 and updated in April 2022 provide policy background including the need for *Local Energy* and specially setting out how "*generation and storage are becoming increasingly decentralised, with solar and batteries being deployed in buildings, vehicles and local comminates*".

Labour entered government in June 2024 with a significant mandate and majority. A key focus of its election campaign was Energy and Net Zero. Whilst many of the manifesto objectives may not yet be enacted into policy, it is a key barometer of the ambitions of the new Government, and Energy was listed as its '*second mission*'.

In its manifesto it brings forward the previous Governments target for a net zero power system to from 2035 to 2030. This will be a very difficult to achieve and requires urgent action, investment and deployment of low carbon technologies, including Battery Box developments.

4.1 Clean Power 2030 – Advice on achieving clean Power for Great Britain by 2030. National Energy System Operator – November 2024

In November 2024 the National Energy System Operator set out in its Clean Power 2030 report the possible pathways to achieving a clean power system for Great Britain by 2030 (known as CP30).

Its overachieving conclusion is that CP30 is possible, but we 'must deliver at the limit of what is feasible'. 'There is absolutely no time left to waste in the deployment of electric vehicles, heat pumps, renewables, and critical flexibility' – such as provided by the proposed Battery Box.

Indeed (page 7) the report goes on to say 'flexibility is vital in a system with more variable renewables', and an 'increase in grid connected battery storage from 5GW to over 22GW' is needed.

Energy storage is listed as a 'key supply-side technology …[that] will need to deploy more on average each year to 2030 than they have every done in a single year before.

"And battery storage is needed to displace gas, to meet growing demand, and to replace retiring plants (page 18).

The growth in battery deployment 'represents a major scale-up in build rates' (page 23). This application is for one of over 1,000 planned projects across the UK.

The report also focuses on the need for robust distribution networks which are 'critical for meeting clean power in an efficient way in 2030' (page 36).

'Developing new distribution network infrastructure (including substations and circuits [and battery boxes as localised flex]) is generally easier than transmission infrastructure due to several factors:

- Low voltage levels: DNOS operate at lower voltages, which simplifies construction and maintenance compared to the high voltage networks.
- Radial configuration – distribution networks are often designed in a radial configuration, meaning power flows in one direction - from the substation to consumers, reducing complexity in design and construction. [This is also the reason battery boxes benefit local networks].
- Proximity to end user – Distribution networks are close to the end users, resulting in shorter distances between substation and consumers, which minimises the amount of infrastructure needed.'

Whilst CP30 needs many other elements (wind, solar, network expansion), NESO is clear that the success of CP30 requires all elements to be delivered, as without any one element the whole objective will be missed. Battery Boxes and energy storage are a key part of the CP30 pathway.

4.2 National Grid Future Energy Scenarios (FES)

National Grid annual Future Energy Scenarios (FES) publication sets out the possible Pathways to Net Zero and represents a credible way to decarbonise our energy system.

Under its Holistic transition pathway published summer 2024, to reach the 2050 net zero target, Great Britain would need to build 27GW (27,000MW) of new energy storage by 2029. The UK currently only has around 4GW of installed energy storage capacity.

In the first half of 2024 we saw only 370MW (0.37GW) of ESS built out, and without significant growth in the sector we will miss the energy storage capacity required for us to reach net Zero. Whilst each Battery Box is small, AMP Clean Energy believe by 2050 we can build more than 1250 projects, making a significant contribution to the overall targets.

5.0 Environmental Review

A Battery Box is a small development and appears much like other utility structures, such as small substations, gas kiosks, and telephone exchanges. As such, alongside careful site selection, the potential impacts are very limited and are offset by the significant benefits the project offers.

5.1 Impacts

Aspect	Comment
Landscape	Impacts on landscape and visual amenity are not considered to be significant due to the nature of the surrounding area and the small-scale nature of the development. The proposed development is located on an unused verge, adjacent to a secondary substation. The site is screened from the road by an existing wall and gate. The development is set at the edge of the playing field and will appear much like the existing utilities infrastructure on site.
Ecology	The proposed development will not have a impact on the local ecology, the development will be situated on a vacant grass verge with no existing vegetation. As the site is below the 25sqm threshold, it is not subject to the requirements under Biodiversity Net Gain.
Land Quality	As the application site is within an existing developed area and minimal ground-breaking is required, there is no anticipated land quality issues.
Cultural Heritage	As the development involves minimal sub-surface construction work, no sub-surface archaeological concerns are therefore anticipated. Given the location and small-scale nature of the development, it is not envisaged that there will be any wider heritage issues from this proposal.
Traffic and Transport	The development will be using the existing accessway. Traffic generation during construction and operation of the development will be minimal. Construction is anticipated to last for approximately 4 weeks. A total of 6 HGV movements (3 arrival, 3 departures) are expected to site. Consequently, the volume of trips generated by the site during construction will be negligible. The ESS is controlled remotely, therefore during the operational phase visits to site are only anticipated to response to a fault or maintenance activities. The additional road traffic cause by the development is negligible.
Air Quality	The battery units do not produce any air emissions and therefore do not impact air quality.

Noise	Noise produced by the proposed Battery Box will be minimal and will not have a significant impact on the surrounding area. The application is accompanied by a noise assessment: Battery Box - Noise Assessment V25, detailing the measured levels and the sound levels up to 25m from source. According to the report, noise from the proposed development at the nearest sensitive receptor 15m away will be 33.3dB, we believe this will have no significant impact.
Health and Safety	The energy storage systems are based on highly stable Lithium Iron Phosphate battery cell and include a battery management system that monitors the system 24 hours a day. An AI-powered internal short circuit detection system, temperature sensor and built in current and voltage sensors all provide early warning of a malfunction and permit automatic or switch off. The system is capable of operating in extreme temperatures between -30°C and 55°C well within the normal climatic environment of the UK.
Drainage	The proposed development will be situated on an area that is currently landscaped and, once complete, the small concrete plinth will be surrounded be permeable landscaped surfaces. Storm water runoff from the battery box and the concrete plinth will shed onto this permeable surface and discharge to the ground. The area of this development is very small at just 24m2 and therefore the total volume of runoff generated from this development area will also be small. Given this it is considered that there will be sufficient capacity in the adjacent soils to receive and hold these flows prior to deeper infiltration or shallow subsurface flows towards local drainage networks. As such the proposed scheme will only result in very localised and minor impacts and the effect of the scheme on runoff rates locally will be negligible. Given the minor nature and small scale of the proposed development further consideration of storm water drainage and the provision of controls is not considered to be necessary or appropriate.

6.0 Conclusion

The proposed development is for a 200kW Energy Storage System and would be one of many ESS's being developed by AMP Clean Energy around the UK. Battery Boxes provide a flexible and decentralised additional source of local grid capacity to address the growing need for flexibility as the UK's generation mix continues to diversify and rely on intermittent renewable energy generation.

The growth of intermittent renewables signifies the need for greater system flexibility to ensure the stability and security of our electricity supply. The ability to dynamically respond to changes in supply and demand is paramount to the resilience of our electricity networks. The proposed ESS will provide resilience to the local grid network by providing a secure and stable electricity supply and emergency backup power which will support and benefit local homes and businesses.

The location and small footprint of the proposed development means it will have no impact on the surrounding site, it will however benefit the local area and national energy network. The overall contribution of the development towards the delivery of the social and economic benefits to the site and the wider surrounding area is in compliance with local and national policies.

Accordingly, South Holland District Council is respectfully requested to approve this Planning Application.

Appendix 01: List of Battery Box Consents

AMP Clean Energy is developing up to 1,250 Battery Boxes in the UK over the next 3 years. For reference we have included a list of some previous Battery Box planning consents below.

Project Name	Local Planning Authority	Reference
Grange Box	Colchester Borough Council	222430
Heysham Box	Sefton Council	DC/2022/01871
Finmere Box	Eastbourne Borough Council	220755
Tame Box	Tameside Metropolitan Borough	22/00811/FUL
Creswell Box	Bolsover District Council	23/00182/FUL
Whitbrook Box	Rochdale Borough Council	23/00104/FUL
Breock Box	Cornwall Council	PA22/10869
Whittle Box	Dorset Borough Council	P/FUL/2022/05957
Nobel Box	Stevenage Council	23/00041/FP
Westthorpe Box	North East Derbyshire Council	23/00283/FL
Bartley Box	Birmingham City Council	2023/02936/PA
Storforth Box	Chesterfield Borough Council	CHE/23/00461/FUL
Brownfields Box	Welwyn Garden City Council	6/2023/1616/FUL
Chandos Box	Buckinghamshire Council - Aylesbury Vale Area	23/02026/APP
Miners Box	Dover District Council	23/01090
Forge Box	Cornwall Council	PA23/08866
Penrod Box	Lancaster City Council	23/01305/FUL
Woodthorpe Box	Spelthorne Borough Council	23/01489/FUL

George Box	Mid Devon Council	23/01592/FULL
Bewsley Box	Mid Devon Council	23/01615/FULL
Colchester Box	Colchester Borough Council	232193
Guildford Box	Cornwall Council	PA24/00207
Brassey Box	Shropshire Council	24/00492/FUL
Maesbury Box	Shropshire Council	24/00510/FUL
Redgate Box	Mid Suffolk & Babergh District Council	DC/24/00442
Cromer Box	North Norfolk District Council	PF/24/0363
Merrivale Box	West Devon Borough Council	0533/24/FUL
Pool Box	Powys County Council	24/0161/FUL
Heol Box	Powys County Council	24/0218/FUL
Brookhill Box	Bolsover District Council	24/00153/FUL
Skomer Box	Pembrokeshire County Council	23/0990/PA
Lockleaze Box	Bristol City Council	23/00454/F
Longfield Box	Tunbridge Wells Borough Council	24/01087/FULL
Egerton Box	Ipswich Borough Council	24/00323/FUL
Gatacre Box	Ipswich Borough Council	24/00347/FUL
Ramsden Box	Herefordshire Council	241158
Blueloop Box	Somerset Council	24/01237/FUL
Cunliffe Box	Isle of Anglesey County Council	FPL/2024/154

Appendix 02: Example Battery Box Site

Images of an example Battery Box site in Tonbridge below. Note - the fence applied for might not match the below image, fence type is chosen dependent upon location.